

METHODS FOR THE SYNTHESIS  
OF A MODIFIED HEMOGLOBIN SOLUTION

ABSTRACT OF THE DISCLOSURE

The present invention employs a filtration step during the hemoglobin purification process that substantially decreases viral contamination of a hemoglobin solution. The filtration means can be used to separate hemoglobin and several endogenous antioxidant enzymes from red blood cell stroma and potential adventitious agents. The purified hemoglobin/antioxidant composition is then subjected to a chemical modification process. The resulting modified hemoglobin/antioxidant composition is then fractionated to remove unmodified hemoglobin species and residual reactants, formulated in electrolytes and rendered sterile. The resulting modified hemoglobin product is substantially free of viral contamination and contains at least one endogenous antioxidant enzyme that retains antioxidant activity.